

Precision Medicine, AI, and the Future of Personalized Health Care

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Abstract

The convergence of artificial intelligence (AI) and precision medicine promises to revolutionize health care. Precision medicine methods identify phenotypes of patients with less common responses to treatment or unique healthcare needs. AI leverages sophisticated computation and inference to generate insights, enables the system to reason and learn, and empowers clinician decision making through augmented intelligence. Recent literature suggests that translational research exploring this convergence will help solve the most difficult challenges facing precision medicine, especially those in which nongenomic and genomic determinants, combined with information from patient symptoms, clinical history, and lifestyles, will facilitate personalized diagnosis and prognostication.